

Complete Listing of Claims

1. (previously presented) A computer-readable medium encoded with computer programs having executable instructions for editing software applications that run on a data network which couples a server computer and a client computer, wherein the client computer runs a browser program, and whereupon request by the browser program, at least one of the applications generates generated documents for display by the browser program on a display device and responds to the request with the generated documents, comprising:

a document generator program running at least part of one of the applications being edited and generating the generated documents, said generated documents including additional editing features for interpretation by the browser program; and

an editor program dynamically operating on the generated documents displayed by the browser program via the editing features.

2. (previously presented) A computer-readable medium as in claim 1, further encoded with a plurality of components, and wherein the software applications comprise at least one document template capable of containing components, and wherein the editor provides features to insert, modify and delete a component on at least one document template, and wherein the document generator executes selected components on document templates.

3 - 21. (cancelled)

22. (previously presented) A computer-readable medium encoded with computer programs having executable instructions to edit and maintain applications using a web browser, comprising:

an editor program operating within the web browser on generated documents and having instructions for inserting, deleting, and modifying components on document templates; and

a document generator program having instructions for processing document templates, for executing said components, and for generating the generated documents from the document templates that are understandable by the web browser.

23. (previously presented) A computer readable medium as in claim 22, wherein the editor program operates a functional application in an edit mode permitting editing of said application directly in the web browser.

24 - 25. (cancelled)

26. (previously presented) A system having a data network which couples a server computer to a client computer, the server computer running an application to modify dynamic documents on the server computer, the server computer comprising:

a document store;

a first software program including instructions for transforming at least one first document retrieved from the document store into a second document having features which permit editing of the first document such that at least a part of the second document appears and functions similar to the run-time view of the first document; and

a second software program including instructions to receive information from the client computer and instructions to modify the first document stored in the document store.

27 - 29. (cancelled)

30. (previously presented) The system of claim 26, wherein the features include scripts.

31. (cancelled)

32. (original) The system as in claim 26, wherein the features incorporate information regarding the first document into the second document.

33. (previously presented) A system as in claim 32, wherein the information incorporated into the second document is used on the client computer in order to send change requests for the first document to the server computer.

34 - 40. (cancelled)

41. (previously presented) A computer-readable medium as in claim 1, the editor program comprising a client part for execution on the client computer.

42. (previously presented) A computer-readable medium as in claim 41, wherein the client part comprises instructions for execution during editing that are automatically downloaded from the server computer in a request prior to editing.

43 - 58. (cancelled)

59. (previously presented) A software development system having at least one computer running an application for developing dynamic web documents, said dynamic web documents operating by being transformed into an end user's view upon a request by a web browser, the end user's view being provided to the browser for display on a display device in response to the request, comprising:

- an editor program having instructions for dynamically editing dynamic web documents,

- a document generator program having instructions for generating generated documents from dynamic web documents which look and function similar to the end user's view of the documents with the addition of editing features,

- the editor program comprising first instructions for requesting that the document generator program processes a dynamic web document during editing thereby resulting in a generated document,

- the system comprising second instructions for displaying at least some information items contained on said generated document in a view which allows the user to select an item to which a modification function will be applied,

the editor program comprising third instructions to modify the dynamic web document to perform said modification function.

60. (previously presented) The software development system of Claim 59 comprising a data network which couples a server computer and a client computer, the document generator program running on the server computer, the editor program at least partly running on the client computer.

61. (previously presented) The software development system of claim 60 comprising fourth instructions for execution during the document generation to collect edit-information for use by the editor program.

62. (previously presented) The software development system of claim 60, wherein the editor program uses a web browser for displaying said view.

63. (previously presented) The software development system of claim 60, comprising instructions for automatically repeating the request that the document generator processes the dynamic web document when required.

64 - 66. (cancelled)

67. (previously presented) The software development system of claim 59, wherein said view looks, except for editing features, similar to the end-user view of the generated document.

68. (previously presented) The software development system of claim 59 comprising sixth instructions to collect edit-information for use by the editor program, said sixth instructions for execution during the document generation.

69. (previously presented) The software development system of claim 68, wherein the editor program uses the edit-information to correctly modify the dynamic web document.

70. (cancelled)

71. (previously presented) The software development system of claim 59, wherein the editor program uses a web browser for displaying said view.

72. (previously presented) The software development system of claim 71, wherein the first instructions comprise seventh instructions for initiating a reload in the browser.

73. (previously presented) The software development system of claim 59 wherein the editor program comprises eighth instructions to display information on at least one element of at least one dynamic web document, that is replaced during document generation, without requesting that the document generator program generates a document.

74 – 128. (cancelled)

129. (new) A non-transitory computer-readable medium encoded with computer programs having executable instructions for editing software applications that run on a data network which couples a server computer and a client computer, wherein the client computer runs a browser program, and wherein upon request by the browser program, the software applications generate generated documents for display by the browser program on a display device and respond to the request with the generated documents, comprising:

a document generator program running at least part of one of the software applications being edited and generating the generated documents, said generated documents including additional editing features for interpretation by the browser program, and

an editor program dynamically operating on the generated documents displayed by the browser program via the editing features,

the computer-readable medium further encoded with a plurality of components, wherein the software applications comprise at least one document template capable of containing components,

wherein the editor provides features to insert, modify, and delete a component on at least one document template, and

wherein the document generator executes selected components on document templates, and wherein at least one of the components reacts interactively on user input by executing instructions of said component on the server computer.

130. (new) The computer-readable medium of claim 129, wherein at least one of the components contains at least one other component.

131. (new) The computer-readable medium of claim 129, wherein the set of components on documents generated from at least one document template can vary for different requests of said document template.

132. (new) The computer-readable medium of claim 129, wherein the page generator makes use of instructions in selected components for including the editing features into the generated documents.

133. (new) The computer-readable medium of claim 129, wherein the page generator makes use of instructions in selected components for generating browser code for inclusion into the generated documents.

134. (new) A software development system for use with a data network which couples a server computer to a client computer, wherein the client computer includes a first software program for generating a request for one or more pages from the server computer and for displaying pages on a display device, and wherein the server computer includes a second software program for receiving and processing the request from the client computer, for generating and storing pages, and for transmitting pages to the client computer in response to requests, the server computer further comprising:

a data store,

a plurality of components residing in the data store, including at least one selected component executing first instructions contained in said selected component on the server computer;

a plurality of page templates residing in the data store, at least one page template having at least one selected component incorporated therein;

a server processor controlled by a third software program, said program providing instructions for selecting the page template based on the request from the client computer and instructions for generating a generated page from the page template for transmission to the client computer thereby calling first instructions; and

a component editor controlled by a fourth software program, said fourth software program providing computer-executable instructions for editing selected components on the page template and instructions for making the first software program display a page for editing on the display device whereon the component has a similar appearance as on the generated page with the addition of editing features.

135. (new) The development system of claim 134, wherein a component is nested within a component.

136. (new) A non-transitory computer-readable medium encoded with computer programs having executable instructions to edit and maintain applications using a web browser, comprising:

an editor program operating within the web browser on generated documents and having instructions for inserting, deleting, and modifying components on document templates, wherein the editor program operates a functional application in an edit mode permitting editing of said application directly in the web browser displaying the generated documents on a display device; and

a document generator program running on a computer having instructions for processing document templates, for executing said components , and for generating the generated documents from the document templates that are understandable by the web browser in response to a browser request,

wherein at least one of the components contains instructions and can react on subsequent document requests containing user responses by executing selected instructions of said component.

137. (new) The computer readable medium of claim 136, further encoded with:
component classes, each component class implementing one component kind;
and
a parser program able to detect components marked on document templates;
wherein the document generator program works upon a document request using component classes to generate browser code, and
wherein the editor program is capable of showing a menu of components for insertion into the document templates.

138. (new) A system for use with a data network which couples a server computer to a client computer, the server computer running an application to modify dynamic documents on the server computer, the server computer comprising:
a document store;
a first software program running on the server computer including instructions for transforming at least one first dynamic document retrieved from the document store into a second document having features which permit editing of the first dynamic document such that at least a part of the second document appears and functions similar to the run-time view of the first dynamic document wherein the first dynamic document includes at least one component being executed by the first software program, the component generating code for the run-time view of the first document;
and
a second software program including instructions to receive information from the client computer and instructions to modify the first dynamic document stored in the document store.

139. (new) The system of claim 138, wherein the second document includes handles and choosing one of the handles selects a component for an editing operation.

140. (new) The system of claim 139, wherein at least one handle indicates the position of at least one component contained in the first dynamic document and said editing operation includes modifying the component, deleting the component, and displaying information regarding the component.

141. (new) A system for use with a data network which couples a server computer to a client computer, the server computer running an application to modify dynamic documents on the server computer, the server computer comprising:

- a document store;

- a first software program for execution on the server computer including instructions for transforming at least one first dynamic document retrieved from the document store into a second document having features which permit editing of the first dynamic document such that at least a part of the second document appears and functions similar to the run-time view of the first dynamic document; and

- a second software program including instructions to receive information from the client computer and instructions to modify the first dynamic document stored in the document store

wherein the features include scripts and wherein the scripts encapsulate information from the first document.

142. (new) A non-transitory computer-readable medium encoded with computer programs having executable instructions to modify dynamic documents on a server computer connected to a client computer via a data network, comprising:

- a first software program for execution on the server computer including instructions for transforming at least one first dynamic document retrieved from a document store of the server computer into a second document having features which permit editing of the first dynamic document such that at least a part of the second document appears and functions similar to the run-time view of the first dynamic document; and

- a second software program running on the server computer including instructions to receive information from the client computer and instructions to modify the first dynamic document stored in the document store; and

the system further comprising at least one script for automatic download to the client computer that works in cooperation with the second document to permit editing of the first dynamic document.

143. (new) A system having at least one computer running a second software program for editing components on web document templates for use with a first software program including first instructions for generating a document request to obtain at least one generated document from the second software program and for displaying the generated document, the second software program capable of receiving and processing the document request and of transmitting first documents to the first software program in response to requests, said system comprising:

a plurality of components in a data store, each component containing executable instructions to generate browser code and each component having features to cooperate in editing the component,

a plurality of document templates,

the second software program transmitting, while processing selected requests, second documents to the first software program that make the first software program display a user interface on a display device, said user interface providing editing functions used for maintaining components on document templates, and

a third software program used by the second software program while processing selected document requests, the third software program including third instructions for modifying document templates in order to perform said editing functions.

144. (new) The system of claim 143, wherein at least some components include fourth program instructions including steps to generate browser code for transmission to the first software program in response to a request from the first software program, wherein the browser code can differ for multiple requests for the same document template.

145. (new) A system as in claim 144 having a data network coupling the computer and a client computer, the first program running on the client computer.

146. (new) A system as in claim 144, wherein second documents include HTML pages with embedded scripts and wherein the features include program instructions for collecting and passing information to the editor and instructions for displaying additional editing features during editing.

147. (new) The system of claim 144, wherein the editing functions include adding a component to a document template, removing a component from a document template, and modifying a component on a document template.

148. (new) The system of claim 144, further comprising a fifth software program used by the second software program while processing selected document requests, the fifth software program including fifth instructions for generating generated documents from document templates thereby calling fourth program instructions.

149. (new) The system of claim 148, wherein the generated documents include, if requested in edit mode, edit features for interpretation by the first software program.

150. (new) The system of claim 148, further comprising instructions to allow the user to click on the generated documents to select items to perform edit functions on.

151. (new) A software development system having at least one computer running an application for developing dynamic web documents, said dynamic web documents operating by being transformed into an end user's view upon a request by a web browser, the end user's view being provided to the browser for display on a display device in response to the request, comprising:

an editor program having instructions for dynamically editing dynamic web documents,

a document generator program having instructions for generating generated documents from dynamic web documents which look and function similar to the end user's view of the dynamic web documents with the addition of editing features,

the editor program comprising first instructions for requesting that the document generator program processes a dynamic web document during editing thereby resulting in a generated document,

the system comprising second instructions for displaying at least some information items contained on said generated document in a view which allows the user to select an item to which a modification function will be applied,

the editor program comprising third instructions to modify the dynamic web document to perform said modification function,

a plurality of components including at least one component marked on said dynamic web document and including instructions for use by the document generator program to generate browser code.

152. (new) The software development system of claim 151, wherein the editor program uses a web browser for displaying said view.

153. (new) The software development system of claim 151, wherein the modification function includes insertion of a component, deletion of a component, and modification of a component.

154. (new) The software development system of claim 69, further comprising a plurality of components wherein the edit-information comprises position information on selected components marked on the dynamic web document.

155. (new) A system having at least one computer running an application for developing document templates that are intended for transformation into generated documents for display by a first software program, the first software program including first instructions for generating a document request to obtain at least one generated document and for displaying the generated document on a display device, comprising:

a plurality of components in a data store of the computer, each component having instructions to generate browser code for transmission to the first software program,

an editor program having instructions for performing editing functions to maintain components on document templates, the components having the ability to cooperate with the editor,

a plurality of document templates having said components denoted thereon, and
a document generator program having instructions to, upon document requests, generate generated documents from at least one document template for display by the first software program on the display device, wherein the set of components on the generated documents can vary for different document requests for said document template.

156. (new) The system as in claim 155, wherein the editing functions comprise adding a component, modifying a component, and deleting a component.

157. (new) The system as in claim 155, wherein tag syntax is used to denote at least one component on at least one document template, whereby the tag name identifies the component kind.

158. (new) The system of claim 155, comprising a server computer coupled to a client computer by a data network, the document generator program running on the server computer, and the editor program running, at least partly, on the client computer.

159. (new) The system as in claim 155, wherein at least one component that can react interactively on subsequent document requests can be excluded from said generated document upon selected document requests for said document template.

160. (new) The system as in claim 159, comprising third instructions to prevent excluded components from reacting on subsequent document requests.

161. (new) A system as in claim 160, said third instructions comprising:

fourth instructions to, upon a first document request, store information in session memory on some of the components that are present on the document generated based on the first document request, and

fifth instructions to, upon subsequent document requests, only react on components that have been remembered in session memory thereby avoiding tampering with excluded components on the side of the first program.

162. (new) A system as in claim 155, wherein at least one first component contains sixth instructions to decide upon a request for said document template about exclusion of components nested inside the first component from the generated document.

163. (new) A system as in claim 155, the system providing an editable view taking the varying set of components into account.

164. (new) A system as in claim 155, providing an editable view that includes and excludes selected components on different requests for said document template similar to the end user's view of the document template.

165. (new) A system as in claim 155, wherein a document generated for at least one document template contains more components than the document template for at least one document request.

166. (new) The system as in claim 155, wherein multiple instances of at least one third component denoted on the document template can be included in at least one of the documents generated from said document template.

167. (new) The system as in claim 155, comprising seventh instructions to assign a unique identifier to each component instance of at least one seventh component, whereby the seventh component includes eighth instructions to qualify names generated into the browser code with the unique identifier.

168. (new) A system as in claim 155, wherein at least one fourth component contains ninth instructions to decide upon a request about how many instances of components nested inside the fourth component are included in the documents generated from said document template.

169. (new) A system as in claim 155, the editor program able to provide an editable view that includes multiple instances of selected components similar to the end user's view of the document template.

170. (new) A system as in claim 155, wherein at least one sixth component includes tenth instructions to display the sixth component, the tenth instructions being used to generate browser code for displaying the sixth component during editing as well as during normal use of the component.

171. (new) A system having at least one computer running an editor program for use with a web browser,

the editor program having instructions for allowing the user to edit at least one document displayed by the browser on a display device,

the editor program including a first software program for execution within the browser having instructions for processing selected clicks on the view of said document displayed in the browser by initiating editing functions modifying a dynamic document, the document being transmitted upon request to the browser and being generated by a document generator program by executing at least part of the dynamic document and the document including editing features for interpretation by the browser.

172. (new) The system as in claim 171, wherein the editor program includes instructions to display at least two windows, a first browser window displaying said document and a second window for displaying information on an element contained in said document.

173. (new) The system as in claim 171, comprising a second software program having instructions for storing modifications on said dynamic document in cooperation with the first software program.

174. (new) The system as in claim 173, wherein the browser displaying the document as said view looking similar to the end-user view of the dynamic document and interpreting editing features contained in the document.

175. (new) The system as in claim 171, wherein said dynamic document having components denoted thereon, the document generator program comprising instructions for generating browser code in cooperation with selected instructions contained in the components.

176. (new) The system as in claim 175, comprising a client computer connected to a server computer via a data network, wherein the browser together with the first software program is running on the client computer, and the document generator program runs on the server computer.

177. (new) The system as in claim 171, wherein links contained in said view stay functional during editing allowing the user to browse and edit at the same time.

178. (new) A system for displaying dynamically generated documents, the system for use on a data network coupling a server computer to a client computer, wherein the client computer has a first software program including first program instructions for generating a request to obtain at least one generated document from the server computer and for displaying the generated document on a display device, comprising:

a plurality of components having instructions for execution on the server computer, at least one of the components including first features adapted to cooperate with an editor in editing said component and second program instructions for execution on the server computer to generate browser code, and

a program having instructions executing on the server for dynamically generating generated documents for transfer to the client computer based on the data contained in

a request initiated by the client computer, thereby using second program instructions of selected components.

179. (new) The system of claim 178 further comprising a plurality of document templates with components denoted thereon, whereby the browser code generated by the components can vary for different requests of the same document template.

180. (new) The system of claim 179, wherein first features include fourth program instructions for passing information to the editor.

181. (new) The system of claim 180, wherein at least part of said information is collected during execution of selected components on the server computer.

182. (new) The system of claim 180, wherein said information is transmitted from the server computer to the client computer.

183. (new) The system of claim 180, wherein said information includes attribute values of said component.

184. (new) The system of claim 179, wherein first features include fifth instructions that display additional editing features of the component during editing.

185. (new) The system of claim 184, wherein said editing features include handles.

186. (new) The system of claim 179, wherein first features include an extension for use by the editor, said extension for enabling editing of an attribute value of the components.

187. (new) The system of claim 186, wherein said extension enables display of a page for editing the attribute values of the components.

188. (new) The system of claim 179, wherein at least one component is denoted on at least one document template using tag syntax, whereby the tag name identifies a component kind.

189. (new) The system of claim 178 containing at least one component wherein second program instructions are used to generate browser code for displaying the component during editing and during normal use.

190. (new) A computer-implemented method for dynamically editing an application that is built using components and that operates by generating documents comprising the steps of:

running at least part of the application on a computer, thereby executing selected components and generating a generated document,
displaying a view of the generated document on a display device,
selecting a component by processing a click on selected portions of said view,
identifying the selected component in the source code of the application, and
initiating a modification function modifying the source code of the application.

191. (new) The method of claim 190, wherein the running step and the displaying step are repeated after initiating the modification function.

192. (new) The method of claim 190, further comprising collecting edit information for use by the identifying step.

193. (new) The method of claim 190, further comprising a step of including editing features into the generated documents for use by the processing a click step.